



FREQUENTLY ASKED QUESTIONS (FAQ)

NATIVE VS. INVASIVE PLANT SPECIES FOR EROSION & SEDIMENT CONTROL

DCR's Natural Heritage Program and other conservation agencies and organizations recognize as "invasive aliens" certain plant species referenced by DCR's Soil & Water Conservation Program in the *Virginia Erosion and Sediment Control Handbook*. This FAQ provides information regarding Virginia native and invasive alien plant species and guidance for using natives in lieu of invasive aliens for vegetative stabilization of land-disturbing activities regulated by the Virginia Erosion and Sediment Control Law and Regulations. This document promotes sound ecological stewardship, while ensuring erosion control and compliance with the law and regulations. Visit DCR's website at www.dcr.state.va.us/dnh for further information about native and invasive plant species and www.dcr.state.va.us/sw/e&s for information about erosion and sediment control.

What is a Native Species?

Native species are those that naturally occur in the region in which they evolved. Plants evolve in specific habitats over extended periods of time in response to physical and biotic habitats processes that are characteristic of that place: the climate; the soils; the seasonal rainfall, drought, and frost; and interactions with other species occupying those habitats. Native species thus possess certain traits that enable them to thrive under local conditions.

What Are Invasive Alien Species and Why Are They of Concern?

Alien plants, also known as exotic or non-native, are species that have been introduced intentionally or accidentally by human activity into a region in which they did not evolve. Many alien species are well known and economically important in agriculture and horticulture, such as wheat, soybeans, and tulips. However, while some alien plants are beneficial and have little capacity to spread in the natural environment, a few are *invasive* and pose serious threats to both natural communities and rare species. Because of a lack of natural controls like insect pests and competitors, some invasive alien plants may escape cultivation, displace native plant species, reduce wildlife habitats, and alter ecosystem processes. The majority of invasive alien plants are problematic due to their ability to easily and rapidly disperse across the landscape. Given this possibility of colonization, use of these species for erosion and sediment control should be avoided when possible.

How Many Invasive Alien Plant Species Have Been Identified in Virginia?

DCR's Natural Heritage Program and the Virginia Native Plant Society, in cooperation with land managers and agencies, nurserymen, landscape architects, horticulturalists, and other partners, have identified 115 invasive alien plant species that threaten natural areas, forests, parks, and other conservation areas in Virginia. A complete list of invasive alien plants for Virginia is available on DCR's website by clicking on "Natural Heritage."

Why is Vegetative Stabilization of Land-Disturbing Activities Required?

Virginia Erosion and Sediment Control Law defines a land-disturbing activity as any land change of 10,000 sq. ft. or greater that involves clearing, grading, excavating, transporting, and filling of land. The Virginia Erosion and Sediment Control Regulations and local ordinances that implement the Law delineate strict requirements for timely temporary or permanent stabilization of land-disturbing activities, including denuded areas, soil stockpiles, earthen structures, cut and fill slopes, and watercourses, to prevent soil erosion from occurring in the first place. Planting vegetation, namely grasses or other herbaceous plants, is an effective and economic method for achieving expedient site stabilization. A copy of the Law and Regulations are available on DCR's website.

Should Invasive Plants Referenced in the DCR Handbook Be Avoided?

Yes. DCR strongly discourages the use of the highly invasive **common reed** and **chinese lespedeza**. There are equally effective alternatives that are less problematic. It is especially important to avoid using these species in stormwater channels and on streambanks, as planting in these habitats may facilitate their wider distribution.

Eight plant species considered invasive aliens are referenced within the following sections of the *E&S Handbook*: Temporary Seeding (STD&SPEC 3.31), Permanent Seeding (STD&SPEC 3.32), Stormwater Conveyance Channels (STD&SPEC 3.17), Vegetative Streambank Stabilization (STD&SPEC 3.22), and Sodding (STD&SPEC 3.33). However, DCR encourages using native plants whenever feasible as described in the remainder of this FAQ.

What Criteria Should Be Met For Native Species To Be Used for Stabilization?

The plant species chosen for stabilization must always be matched to the characteristics (climate, soils, etc.) of the site/region and must be commercially available in that region. Further, because interest in using native species for erosion and sediment control is relatively recent, alternative native species may not have been thoroughly field-tested to document their efficacy for erosion and sediment control. DCR recommends native plants for vegetative stabilization if the following criteria are met:

- (1) Slopes < 15% slope gradient
- (2) Soils with K factors < 0.36 (soils are not highly erodible)
- (3) For use along roadways, species height must comply with Virginia Department of Transportation visibility requirements and not have characteristics that are highly attractive to birds and mammals
- (4) For use on stormwater conveyance channels and streambanks, species must have proven effectiveness at the expected maximum stormwater flow volume and velocity

Generally, flat to gently sloping, open areas where there is little traffic are appropriate locales for planting most of the alternatives species suggested below. Utility easements or rights-of-way, park like areas, greenways, and other open tracks of land are excellent places to propagate native plants. However, natives may be considered even if one of these criteria is not met if there is sufficient evidence that the species is effective for erosion control.

What are Some Alternative Native Species to the Invasive Aliens in the Handbook?

The table below provides a list of alternative Virginia native plants with similar attributes to the invasive alien plants. These alternatives are offered as suggestions if the criteria listed above are met. Fact sheets for 30 invasive plant species and five brochures on using native plants for restoration and landscaping are available from DCR or via the department's website.

Invasive Alien Species	Alternative Virginia Native	
<i>Common Name</i>	<i>Common Name</i>	<i>Scientific Name</i>
Common Reed	Great bulrush	<i>Scripus lacustris</i>
	Common Cattail	<i>Typha latifolia</i>
Chinese lespedeza Birdsfoot trefoil Orchard grass Redtop Weeping lovegrass	Roundheaded bushclover	<i>Lespedeza capitata</i>
	Partridge pea	<i>Chamaecrista fasciculata</i>
	Butterflyweed	<i>Asclepias tuberosa</i>
	Joe-pye weed	<i>Eupatorium dubium</i>
	Black-eyed Susan	<i>Rudbeckia fulgida</i>
	Big blue stem	<i>Andropogon gerardii</i>
	Indian grass	<i>Sorghastrum nutans</i>
	Side oats grama	<i>Bouteloua curtipendula</i>
Crownvetch	Roundheaded bushclover	<i>Lespedeza capitata</i>
	Partridge pea	<i>Chamaecrista fasciculata</i>
	Big blue stem	<i>Andropogon gerardii</i>
	Little blue stem	<i>Schizachyrium scoparium</i>
	Indian grass	<i>Sorghastrum nutans</i>
Tall fescue	Switchgrass	<i>Panicum virgatum</i>
	Big blue stem	<i>Andropogon gerardii</i>
	Little blue stem	<i>Schizachyrium scoparium</i>
	Indian grass	<i>Sorghastrum nutans</i>
	Switchgrass	<i>Panicum virgatum</i>
	Broomsedge	<i>Andropogon virginicus</i>
	Deertongue	<i>Dichanthelium clandestinum</i>
	Side oats grama	<i>Bouteloua curtipendula</i>
	Canadian wildrye	<i>Elymus canadensis</i>
	Bottlebrush grass	<i>Elymus hystrix</i>
	Virginia wildrye	<i>Elymus virginicus</i>

Are There Other Considerations When Employing Alternative Native Plants?

Yes. The following potential issues should also be considered when employing alternative native plants:

- ☐ Always using a seed mix is desirable for two reasons:
 - o Some natives take several seasons to fully establish, so a seed mix including some non-competing annual plant species is recommended
 - o To prevent establishing a "monoculture" and encourage biodiversity, multiple natives species should be established on site when possible
- ☐ Some natives have new/unique maintenance requirements (weeding, mowing, herbicides, etc.)
- ☐ Adding compost to raise the organic content of the soil will greatly enhance the success of vegetation
- ☐ Always coordinate with and educate local government officials, property owners, and the citizenry about the benefits of natives – many natives don't produce lush green lawns, and are perceived as weeds

Who Must Approve Use of Alternative Native Plants?

Users should work with the local Native Plant Society chapter (www.vnps.org) or equivalent and the erosion and sediment control program authority to select appropriate native plant species. Note that the selection of plant species for vegetative stabilization **must always** be approved by the program authority as a part of the erosion and sediment control plan.